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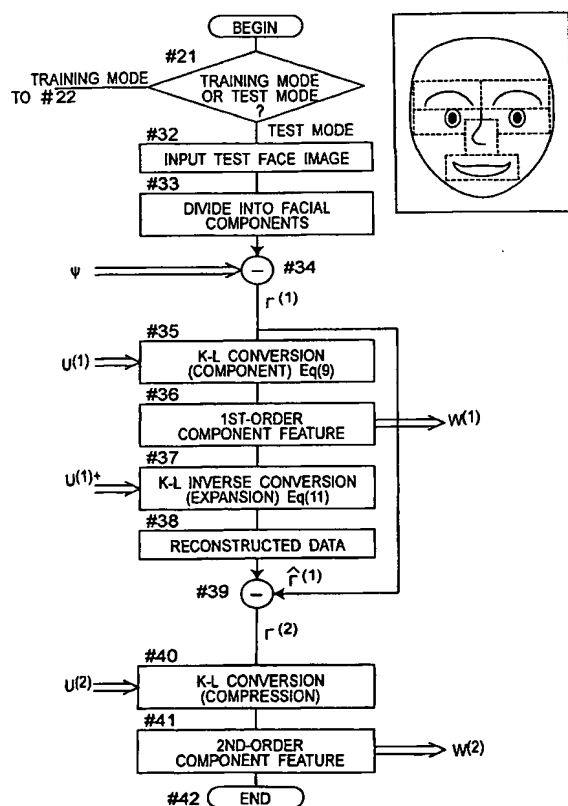(75) Inventors/Applicants (for US only): GAO, Yongsheng [CN/SG]; c/o School of Computer Engineering, Nanyang

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(54) Title: METHOD AND APPARATUS FOR FACE DESCRIPTION AND RECOGNITION USING HIGH-ORDER EIGENCOMPONENTS

(57) Abstract: High-order eigencomponents are proposed to describe detailed regional information of that particular facial component. A formula is given to calculate high-order transform matrix for projection. The high-order component features can be used individually to describe a facial component or combined with first-order component features. Since detailed regional identity information can be revealed with high-order component features, the combination of first-order component features and high-order component features of eyes, eyebrows, nose, mouth and outline with different attention weights, based on the significance of identity information of the corresponding area, has better face description capability compared with the first-order eigenface features or combined first-order and high-order eigenface features.

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